

ABSTRACT OF THE DISCLOSURE

The present inventors have discovered that 3-oxo-5- α -steroid 4-dehydrogenase (DET2) is essential for plant growth. Specifically, the inhibition of
5 DET2 gene expression in plant seedlings resulted in seedlings that are shorter than controls and chlorotic. Thus, DET2 can be used as a target for the identification of herbicides. Accordingly, the present invention provides methods for the identification of compounds that inhibit DET2 expression or activity, comprising: contacting a compound with a DET2 and detecting the presence and/or absence of binding
10 between said compound and said DET2, or detecting a decrease in DET2 expression or activity. The methods of the invention are useful for the identification of herbicides.